

ABSTRACT OF THE DISCLOSURE

In a method of detecting arc discharge in a glow-discharge apparatus GD that has a high-frequency power source PS, a cutting pulse is output for time T1 to  
5 the high-frequency power source PS to stop a supply of power to the glow-discharge apparatus GD, when  $dV_r/dt - dV_f/dt$  increases over a first level, where  $V_f$  and  $V_r$  are a traveling-wave voltage and a reflected-wave voltage applied to the glow-discharge apparatus  
10 GD, respectively. Arc discharge is determined to have developed in the glow-discharge apparatus, when  $V_r/V_f$  increases to a second level or a higher level within a preset time  $T_0$  after the supply of power to the glow-discharge apparatus is stopped.